

**TEHAMA COUNTY FLOOD CONTROL & WATER CONSERVATION
DISTRICT COORDINATED AB 3030 GROUNDWATER MANAGEMENT PLAN
TECHNICAL ADVISORY COMMITTEE**

2009 REPORT

Prepared for

**TEHAMA COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
BOARD OF DIRECTORS
June 2009**

This report was prepared by the membership of Technical Advisory Committee (TAC), an advisory body to the Tehama County Flood Control and Water Conservation District's (TCFCWCD), Board of Directors (BOD). The report presents the activities of the TAC for the period of March 2006 to May 2009 and the continued progress relative to the development and implementation of the AB 3030 Coordinated Groundwater Management Plan (GWMP) for Tehama County.

PURPOSE OF THE PLAN

Pursuant to section 104 of the Tehama County GWMP, the purpose of the plan is to:

- A. Prevent long-term overdraft of groundwater in the Plan Area and to balance long-term average annual replenishment with extractions and other losses to the basin as may be consistent with public interest of the Plan area population.
- B. Develop a comprehensive groundwater basin management program that protects the groundwater resources of Tehama County in order to provide local users with a reliable long-term water supply.
- C. Implement groundwater management plan through the development of a countywide consensus wherever possible.
- D. Develop a plan to protect basin groundwater quality.

TECHNICAL ADVISORY COMMITTEE (TAC)

The TAC is comprised of a diverse group of volunteers from Tehama County that possess expertise in the area of water supply, water management, and natural resource issues and policies. It operates pursuant to the rules, regulations and procedures set forth in the TAC Bylaws adopted by the TCFC&WCD Board of Directors on January 27, 1998. The nine-member board represents municipal, agricultural, natural resource, forestry, and recreation interests. The TAC serves as an advisory body to TCFC&WCD Board of Directors through liaison and collaboration with Tehama County's Water Resources Manager and staff. Staff from the Northern District Groundwater Section of the California Department of Water Resources (DWR) attend meetings on a regular basis and add professional expertise. Meetings are held approximately monthly and are open to the public. Interested parties are provided notice of each meeting pursuant to public meeting requirements (Brown Act).

The nine members are appointed for three-year terms with re-appointments staggered so that not more than a third of the TAC membership is subject to reappointment each year. The following is a list of current TAC members and respective affiliation.

- Mark Barthel, City of Red Bluff
- Colin Klinestecker, Private Pumpers
- Allan Fulton, Agricultural Pumpers, Chairman
- Chuck Crain, Water Districts
- Steve Kimbrough, City of Corning

- Walt Mansell, Natural Resources, Forestry and Recreation
- William Richardson, Agricultural Pumpers
- Roger Sherrill, Small Districts
- Robert Steinacher, Water Districts, Vice Chairman

During this reporting period, Jim Lowden, General Manager of Corning Water District and Kevin Borrer, Private Pumper vacated positions on the TAC, which were filled by Chuck Crain and Colin Klinestecker, respectively. Robert Steinacher was re-nominated and filled his position for a second term.

Three committee positions are currently in transition: 1) Walt Mansell, Natural Resources, Forestry and Recreation, Allan Fulton, Private Pumper, and Roger Sherrill, Small Districts. Walt Mansell and Allan Fulton have applied to serve another term on the committee. After several terms of service, Roger Sherrill has decided not to seek another term.

TAC ACTIVITIES

The TAC has been engaged with the District in a number of activities:

1. Expanded monitoring of groundwater conditions in Tehama County
2. Key well identification and trigger level development
3. Review and comment on Tehama County General Plan Update
4. Review and recommend updates to the AB3030 Plan for Tehama County
5. Initiation of TAC and District outreach using local media
6. Updates on community, county, and regional water resource management

Expanded Monitoring of Groundwater Conditions

Consistent with the Tehama County AB 3030 Coordinated Groundwater Management Plan, the TAC has been committed to implementing a science-based approach. As a result, the TAC supported the District in its ongoing efforts to expand monitoring of the groundwater conditions within Tehama County.

In 2007, the TAC supported the District's partnership in a Ground Surface Elevation Monitoring Program for land subsidence in Tehama County. In-elastic land subsidence is the lowering of the ground surface as a result of extracting groundwater from clay strata. When groundwater is extracted from clay strata, the pore space in the strata compacts causing the loss of groundwater storage and the lowering of land at the ground surface. Land subsidence can damage roads, levees, and other infrastructure and should be prevented.

The Department of Water Resources, Northern District and various county agencies throughout the Sacramento Valley, including the District worked collaboratively to leverage funding and personnel to initiate this program. Survey benchmarks (permanent monuments) have been established throughout the Sacramento Valley beginning in the north near Shasta Dam, including Tehama County, and extending through Butte, Glenn,

Colusa, Sutter, Yuba, and Yolo Counties. In April 2008, ground surface elevations were measured using global positioning systems and satellite surveying technology at 40 survey benchmarks on a 3 to 5 miles grid that encompasses the lower foothills and valley floor of Tehama County. Ground surface elevations will be monitored about every 5 years to be alert to the earliest indications of land subsidence.

The current groundwater monitoring network for groundwater levels consists of more than 190 agricultural, domestic, or dedicated monitoring wells throughout Tehama County and contribute to the historic record and current status of groundwater levels and groundwater quality. The TAC has encouraged the addition of new wells to this network. Specifically more monitoring is needed on the west side of the county in the Red Bluff West and Corning West sub-areas as well as in the Rosewood, Bend and South Battle Creek (Bend area) sub-basins in the northern part of the county. In 2008, an effort was made to add an existing, deep agricultural well in the vicinity of Rancho-Tehama to the current groundwater level monitoring network. Unfortunately, a constraint with the well has prevented it from being added at this time.

The TAC supported the District's effort to seek additional AB 303 grant funding to construct two additional dedicated, multi-completion groundwater monitoring wells. The TAC has recommended one dedicated monitoring wells be constructed in the Capay area of Tehama County near the Glenn County boundary and the other be constructed in the vicinity of Rancho-Tehama in the Red Bluff-west sub-area. In September 2008, the District was awarded an AB 303 grant to fund the construction of these two dedicated monitoring wells but the release of these funds have been postponed in-lieu of California's fiscal problems.

Key Well Identification and Trigger Level Development

Beginning in 2006 and continuing through 2009, the District and TAC worked together with John Ayres, a hydrogeologist from the consulting firm Brown and Caldwell of Sacramento. AB 303 grant funding was used to fund the consultant's technical support. As outlined in the AB 3030 Coordinated Groundwater Management Plan for Tehama County, our charge was to assist the development of a scientifically sound process for identifying "key wells" and then assist with setting the initial "trigger levels" for groundwater levels. This involved identifying reliable ground water level data within Tehama County and developing a method of evaluating these data to establish critical levels that would trigger various levels of communication and coordinated management actions (referred to as "awareness actions") depending upon groundwater level conditions. The trigger level process also needed to be sensitive to variable groundwater conditions in the different groundwater sub-basins of the county while providing a uniform process for implementation throughout the county. A final part of the process was to conduct public outreach to discuss the proposed trigger levels and awareness actions with water users in each of the sub-basins.

Public outreach was conducted from November 2008 through May 2009 to discuss implementation of the proposed trigger levels and awareness actions. As of June 2009, the District and the TAC has completed the task of identifying key wells and proposing initial trigger levels and corresponding "awareness actions" for twelve groundwater sub-

basin in Tehama County. A total of 41 key wells, which include a combination of agricultural and domestic wells, have been identified for use in this trigger level process within ten of the sub-basins. Recommendations for new monitoring and additional key wells have been identified in three of the sub-basins. For more detailed information, the District and TAC have printed comprehensive written information and provided on-line versions (see the District website at <http://www.tehamacountywater.ca.gov/>). The documents are titled:

1. Tehama County AB-3030 Groundwater Management Plan. Background Document: Proposing Groundwater Trigger Levels and Awareness Actions for Tehama County.
2. Tehama County AB-3030 Management Plan. Technical Memorandum:
 - Antelope Sub-basin
 - Bend Sub-basin
 - Bowman Sub-basin
 - Corning East Sub-basin
 - Corning West Sub-basin
 - Dye Creek Sub-basin
 - Los Molinos Sub-basin
 - Red Bluff East Sub-basin
 - Red Bluff West Sub-basin
 - Rosewood Sub-basin
 - South Battle Creek Sub-basin
 - Vina Sub-basin

Public outreach has recently been concluded and the TAC is in the process of incorporating public input that has been received. Generally, there has been broad public support for implementing the proposed trigger levels and awareness actions. Next steps will involve including Tehama County's initial key wells and trigger levels into a northern Sacramento Valley database called the Basin Management Objectives Information Center (BMOIC). The BMOIC is managed by the Butte County Department of Water and Resource Conservation, an agency that shares the same mission as the Tehama County Flood Control and Water Conservation District. It is a regional database that the four counties of Butte, Glenn, Tehama, and Colusa counties have shared funding to develop and that is designed to foster the implementation of basin management objectives or trigger levels. Future groundwater level measurements will be to be stored, analyzed, and evaluated against the newly established trigger levels for Tehama County to track the status of our local groundwater levels and to alert the District, TAC, and citizens of Tehama County of the need for additional coordinated groundwater management.

Review and Comment on Tehama County General Plan Update

While Tehama County General Plan Update was in progress, the TAC worked with the District to review elements of the General Plan related to water resources. The TAC submitted letters to the Tehama County Department of Planning in December of 2007

and to the Tehama County Planning Commission in November of 2008 with suggested revisions for the General Plan Update. Our suggestions center on sections 6.0 and 6.2 of the General Plan and our intent was to encourage a central place in the document that accurately highlights water resources in Tehama County and directs readers towards more specific county policies related to the management of water resources.

Review and recommended updates to the AB3030 Plan for Tehama County

In 2008, the TAC began a thorough review of the AB-3030 Coordinated Groundwater Management Plan as publicly approved and adopted back in 1998. The review served many purposes: 1) to accurately capture the historic experience and perspective from TAC members who have been engaged in groundwater management in Tehama County for over 20 years; 2) to improve the familiarity of less experienced TAC members with Plan; 3) evaluate and document the progress made in implementing the Plan since its adoption; and 4) assess whether all elements of the Plan remain relevant given that more than ten years has passed since its adoption.

The TAC divided the Plan into sections and reviewed them over several TAC meetings in 2008 and has nearly completed the review. This activity will continue in 2009/10. The TAC will prepare a copy of the adopted Plan with some form of an addendum summarizing the TAC and District's staff review comments. Once the addendum is completed, the TAC and the District will communicate a summary of its review to the District's directors to determine whether any further action is necessary.

Initiation of TAC and District outreach using local media

In 2008, the TAC published a guest article in the Red Bluff Daily News in an effort to increase awareness that the District and the TAC are proactively working to manage the groundwater resources in Tehama County. The TAC may pursue this more in 2009/10.

Updates on community, county, and regional water resource management

One goal of the TAC is to remain as current as possible on the numerous and wide variety of activities that may influence water resources in Tehama County. To accomplish this, the TAC has invited various guest speakers to its meetings. Topics and guest speakers included:

- Stony Creek Fan Aquifer Performance Test, Thad Bettner, General Manager, Glenn Colusa Irrigation District
- Sky View County Water District Project – Ernie Ohlin, General Manager, TCFCWCD
- Changes in Groundwater Storage in Tehama County – Seth Lawrence, DWR, Northern District
- Historical (1912/13) and current groundwater contour maps for Glenn County, Lester Messina, Glenn County Department of Agriculture
- Sage Development and Morgan Ranch Pump Test - Ernie Ohlin, General Manager, TCFCWCD
- Manton, "Big Idea" Proposal, Robert Lee, Manton resident and Engineer

- Red Bluff Diversion Dam – Jeff Sutton, General Manager, Tehama Colusa Canal Authority

FUTURE TAC ACTIVITIES

As in the past, the TAC will continue to work with and support the District's staff and directors in an ad-hoc advisory capacity. Possible action items may include:

CONTINUED ACTIVITIES

- Pursue AB 303 grant funding and construction of additional multi-completion monitoring wells in the Capay area and Red Bluff west groundwater sub-basins;
- Incorporate the new trigger levels for Tehama County into the Basin Management Objective Information Center (BMOIC) and then analyze, evaluate, and report future groundwater levels in relation to the trigger levels;
- Complete the review of the AB 3030 Groundwater Management Plan and discuss progress with implementing the Plan and possible elements of the Plan that may require updates;
- Increase the broader public's awareness of the county's Groundwater Management Plan;
- Evaluate other aspects of groundwater management that may be appropriate to engage in the future such as addressing trigger levels for groundwater quality or engaging in special studies such as the Lower Tuscan Recharge Investigations;
- Engage in four-county coordinated effort to establish with Butte, Glenn, Colusa, and Sutter Counties as a recognized sub-basin within the Sacramento Valley that is eligible to compete for future grant funds focusing on water resource management; and
- Stay current of state and federal legislation with potential of influencing water resources in the northern Sacramento Valley region.

FUTURE ACTIVITIES

- Conduct a broad, general groundwater recharge feasibility study for the county;
- Work with the Department of Water Resources, Northern District to complete a thorough assessment of existing water well infrastructure throughout the Tehama County. An improved understanding of the types and extent of water well construction in each groundwater sub-basin will provide additional perspective for implementing groundwater trigger levels and awareness actions; and
- Update the Water Inventory Analysis for Tehama County that was completed in 2003 and based upon 2002 land use and water resource data.